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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,291	07/18/2000	Gopal S. Krishna	95-320	8015

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EXAMINER

CALDWELL, ANDREW T

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/618,291

Applicant(s)

KRISHNA, GOPAL S.

Examiner

Andrew Caldwell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Remarks

Claims 1-18 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 12-13, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Fawaz et al., U.S. Patent App. Pub. 2003/0133406 A1.

Regarding claim 1, Fawaz anticipates the claimed invention by disclosing a method comprising:

First determining a priority for a data frame received on a network switch port (pars. 51-53 SLA as priority);

Second determining a depletion of network switch resources (pars. 78-79; Fig. 10);

1 Selectively outputting a flow control frame on the network switch port
2 based on the determined depletion of network switch resources relative to the
3 determined priority (pars. 78-79; Fig. 10).

4 Regarding claim 2, Fawaz teaches a method wherein the first determining step
5 includes determining the priority for the data frame at the network switch port (pars. 51-
6 53).

7 Regarding claim 3, Fawaz teaches a method further comprising storing the
8 determined priority within a table configured for storing the determined priority for each
9 of a plurality of the network switch ports (Fig. 6 elem. 318).

10 Regarding claims 12-13 and 18, they are apparatus claims corresponding to
11 method claims 1-2, respectively. Since they do not teach or define above the
12 information in the corresponding method claim, they are rejected under the same basis.

13
14 ***Claim Rejections - 35 USC § 103***

15 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
16 obviousness rejections set forth in this Office action:

17 (a) A patent may not be obtained though the invention is not identically disclosed or described as set
18 forth in section 102 of this title, if the differences between the subject matter sought to be patented and
19 the prior art are such that the subject matter as a whole would have been obvious at the time the
20 invention was made to a person having ordinary skill in the art to which said subject matter pertains.
21 Patentability shall not be negated by the manner in which the invention was made.

22
23
24
25 Claims 4-11, and 14-17 are rejected under 35 U.S.C. 103(a) as being
26 unpatentable over Fawaz.

1

2 Regarding claim 4, Fawaz teaches the invention substantially as claimed. See
3 the rejection of claim 3 above. Fawaz does not explicitly teach a method in which the
4 second determining step includes determining whether an availability of the network
5 switch resources falls below a first prescribed threshold value. Rather, Fawaz teaches
6 a method which operates on the basis of the number of occupied buffers (par. 78
7 “occupancy ... exceeds some threshold H”). When the number of occupied buffers is
8 greater than a certain amount, Fawaz initiates congestion control. In any system, the
9 total number of buffers is equal to the number of occupied buffers plus the number of
10 available buffers. Given this fact, it would have been obvious to one of ordinary skill in
11 the art at the time the invention was made to modify the system of Fawaz to operate on
12 the basis of buffer availability as opposed to buffer occupancy based on simple
13 mathematical reasoning. In the modified method, the second determining step would
14 determine whether an availability of the network switch resources falls below a first
15 prescribed threshold value.

16 Regarding claim 5, Fawaz teaches a method further comprising setting the first
17 prescribed threshold value based on a user-defined priority threshold (par. 57 H).

18 Regarding claim 6, Fawaz teaches a method where the setting step includes
19 setting a plurality of prescribed threshold values, including the first prescribed threshold
20 value, based on a plurality of user-defined priority thresholds, respectively (par. 57 H is
21 SLA specific).

22 Regarding claim 7, Fawaz teaches a method wherein:

1 The first determining step includes determining the priority from a plurality
2 of available priority values (Fig. 6 elem. 318 showing multiple SLAs);

3 The second determining step includes determining whether the availability
4 of the network resources has fallen below an identified one of the prescribed
5 threshold values (see the reasons for rejection of claim 4);

6 The selectively outputting step includes identifying from the table the
7 network switch ports having respective priority values less than the
8 corresponding user-defined priority threshold for the identified one prescribed
9 threshold value (par. 57).

10 Regarding claim 8, Fawaz teaches a method wherein the step of setting the
11 plurality of prescribed threshold values includes storing the prescribed threshold values
12 and the respective user-defined priority thresholds in a second table (par. 57).

13 Regarding claim 9, Fawaz does not explicitly teach a method further comprising
14 deleting the determined priority from the table after a prescribed aging interval. Official
15 notice is hereby taken of the fact that aging table entries is a known technique for
16 eliminating no longer used entries. It would have been obvious to one of ordinary skill in
17 the art at the time the invention was made to modify the method of Fawaz to include the
18 step of deleting the determined priority from the table after a prescribed aging interval
19 because it would allow the system to handle the situation where an SLA was not
20 properly shut down.

21 Regarding claim 10, it introduces the same limitations as claim 6, so it is rejected
22 for the same reasons.

Regarding claim 11, it introduces the same limitations as claim 7, so it is rejected for the same reasons.

Regarding claims 14-17, they are apparatus claims corresponding to method claims 4-5, 7, and 9, respectively. Since they do not teach or define above the information in the corresponding method claim, they are rejected under the same basis.

Response to Arguments

As to claim 1, the Applicant's arguments filed on March 30, 2004 (paper no. 6) have been fully considered but they are not persuasive. The Applicant is arguing in substance the following: (a) Fawaz teaches a system that selectively outputs a control message based only on the depletion of network switch resources; (b) Fawaz does not teach the sending of a flow control frame; (c) Fawaz teaches a system that outputs a message on all switch ports as opposed to selected ones of network switch ports; (d) Fawaz

As to point (a), the Applicants argue that since Fawaz teaches a system that outputs a message based *only* on the depletion of network switch resources, Fawaz cannot teach a system that outputs a message based on *both* the depletion of network switch resources and determined priority values based on a corresponding received data packet. This argument is not deemed persuasive because Fawaz teaches that each packet, which is a synonym for Ethernet frame (par. 49), is classified in accordance with its SLA (par. 51). Since the congestion control message is based on the occupancy of the queue corresponding to an SLA which in turn is a function of the

1 priority/SLA for the received packets, Fawaz teaches a message based on *both* the
2 depletion of network switch resources and determined priority values based on a
3 corresponding received data packet.

4 As to point (b), the Applicant argues that Fawaz's congestion control message is
5 not a flow control frame. This argument is not deemed persuasive because Fawaz
6 makes clear that uses the terms Ethernet frames and packets interchangeably (par. 49).
7 Since the control message is transmitted over an Ethernet network, Fawaz teaches a
8 flow control message that is a frame.

9 As to point (c), the Applicant argues that since Fawaz teaches a flow control
10 message that is output on all switch ports, Fawaz cannot anticipate the claimed
11 invention. The Applicant is essentially arguing that the claim language requires the flow
12 control frame to be selectively output on a subset of the switch ports. The Examiner
13 fails to see how this limitation appears in the language of claim 1.

14 As to claim 12, the Applicant's arguments filed on March 30, 2004 (paper no. 6)
15 have been fully considered but they are not persuasive. The Applicant is arguing in
16 substance that Fawaz teaches a system that outputs a message on all switch ports as
17 opposed to selected ones of network switch ports. More specifically, the Applicant
18 asserts on page 7 paragraph 3 of the reply that the control message is sent to *all*
19 neighboring nodes. This statement is incorrect. Fawaz states that the control message
20 is sent to its *neighboring QOS nodes*. The Applicant's argument therefore assumes that
21 Fawaz teaches a system in which only QoS enabled nodes are interconnected. This
22 assumption is also incorrect. In Figure 4, Fawaz shows QoS nodes attached to regular,

1 non-QoS packet switches (Fig. 4 circle linked to multiple squares; pars. 41 and 44-45).
2 So while Fawaz may teach that a QoS node may send its control message to its
3 neighboring QoS nodes, that message will not be sent to all of its neighboring nodes
4 since some of its neighbors (Fig. 4 squares) are not QoS nodes (Fig. 4 circles). Fawaz
5 therefore teaches a system that outputs a message on a subset (i.e., selected ones) of
6 network switch ports.

7 As to claims 2 and 13, the Applicant's arguments filed on March 30, 2004 (paper
8 no. 6) have been fully considered but they are not persuasive. The Applicant is arguing
9 that the claim language requires the determining of the priority to occur at the network
10 switch port. This argument assumes that the prepositional phrase modifies the verb
11 "determining." As in claims 2 and 13, where two or more prepositional phrases follow
12 each other, they may modify the same word, or one phrase may modify the object in the
13 preceding phrase. The examiner chooses the latter interpretation as opposed to the
14 former. Using that construction, Fawaz clearly teaches a data frame at network switch
15 port.

16
17 ***Conclusion***

18 Applicant's amendment necessitated the new ground(s) of rejection presented in
19 this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP
20 § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
21 CFR 1.136(a).
22

23 A shortened statutory period for reply to this final action is set to expire THREE
24 MONTHS from the mailing date of this action. In the event a first reply is filed within
25 TWO MONTHS of the mailing date of this final action and the advisory action is not
26 mailed until after the end of the THREE-MONTH shortened statutory period, then the
27 shortened statutory period will expire on the date the advisory action is mailed, and any

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1 extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
2 the advisory action. In no event, however, will the statutory period for reply expire later
3 than SIX MONTHS from the date of this final action.
4

5 Any inquiry concerning this communication or earlier communications from the
6 examiner should be directed to Andrew Caldwell, whose telephone number is (703)
7 306-3036. The examiner can normally be reached on M-F from 9:00 a.m. to 5:30 p.m.
8 EST.
9

10 If attempts to reach the examiner by phone fail, the examiner's supervisor,
11 Glenton Burgess, can be reached at (703) 305-4792. Additionally, the fax numbers for
12 Group 2100 are as follows:
13

14 Fax Responses: (703) 872-9306
15

16 Any inquiry of a general nature or relating to the status of this application should
17 be directed to the Group receptionist at (703) 305-9600.
18
19

20 
21
22
23

24 Andrew Caldwell
25 703-306-3036
26 June 2, 2004
27